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Hongrie et d'un crâne provenant des temps barbares du même pays. Avec 11 fig. phototyp. sur 3 planches, 11 fig. xylogr. et 5 fig. zincogr. intercalées dans le texte. Budapest, 1878, Kilian, 134 pp. gr. 4. m. 18.

Montano. Etude sur les crânes boughis et dayaks du Museum d'histoire naturelle. Avec projections au diagrafhe intercalées dans le texte. Paris, 1878, G. Masson. 71 pp., 8vo.

Schoebel (C.). L'âme humaine au point de vue de la science ethnographique; suivi d'une note sur Claude Bernard et son principe du critérium ethnographique. Paris, 1878, De Rosny. 24 pp., 8vo.

Bouchut (E.). Peso de los recién nacidos. Rev. de med. y cir. práct., Madrid, 1878, II, 289-300.

Davreux. Un cas remarquable de microcéphalie. Ann. Soc. Med.—Chir. de Liege 1879, XVII, 329-331.

Dupouy. De l'hérédité et des mariages consanguins. Médecin, Par., 1878, IV (No. 40).

Whitley (N.). Is "palæolithic man" a reality of the past, or a myth of the present? Jour. of Psych. Med., London, 1878, n. s. IV, 256-275.

In addition to the foregoing valuable list from *Index Medicus*, the following brief references are given with the hope that they may be of service to some of our readers:

A review of non-Biblical Semitic literature for 1878, by A. Neubauer, in *Athenæum*, Jan. 11.—The Aryan Household: an Introduction to comparative jurisprudence, by William E. Hearn, reviewed in *Athenæum*, Jan. 25.—The History of Afghanistan from the earliest period to the outbreak of the war in 1878, by Col. G. B. Matteson, reviewed in *Academy*, Jan. 11.—Russian and Turk, from a geographical, ethnological and historical point of view, by R. G. Latham, reviewed in *Academy*, Jan. 18th, by M. Elie Reclus.—Discoveries of Antiquities in Italy in 1878, by F. Barnabei, reviewed in *Academy*, Jan. 18, 1879.—Prehistoric Copper Implements. An open letter to the Historical Society of Wisconsin, by Rev. E. F. Slater, *New England Hist. and Gen. Register*, Jan. 9, 9 pp.—Ancient Artificial Mounds, B. Shipp, *Louisville Magazine*, Jan., 7 pp.—Peruvian Antiquities, Dr. E. R. Heath, *Quarterly Journal of Science*, Jan.—Fairy Lore of Savages, J. A. Farrer, *Saturday Magazine*, Jan. 4, 8 pp.—The Indian as a coming citizen, by E. B., *Lippincott's Magazine*, Jan., 2 pp.

GEOLOGY AND PALÆONTOLOGY.

GEOLOGICAL SURVEY OF NEW ZEALAND.—The following districts of New Zealand have been geologized during the season 1877-8: The Hokanui mountains in Southland, by Mr. Cox, from October to January, assisted by Mr. McKay, who continued the work of collecting fossils until the end of February. In January Mr. Cox visited and reported on the copper lode at Dusky sound.

He was then occupied until March in the examination of the Te Anau Lake district, after which he made the required inspection of the various coal mines. Mr. McKay was employed on the east coast of the Wellington district during September, in the Mount Potts district of Canterbury in October, and in the Wairoa and Dun Mountain district of Nelson in May. Lastly, the D'Urville island copper lodes were examined by Mr. Cox in August.

During the year twenty-six out of the thirty-two collieries now in work in the Colony were inspected and surveyed, and all the working plans brought up to date. The underground surveys were made in the first instance by Mr. Denniston, the government coal viewer, and afterwards, in most cases, inspected and passed by Mr. Cox, who holds the position of inspector under the "Regulation of Mines Act, 1874."

The following is a list of the collieries, with the date of the last inspection of each, and the yield of each year, for the year ending on 30th June:

<i>District.</i>	<i>Date of Inspection.</i>	<i>Output for past year in tons.</i>
<i>Malvern Hills—</i>		
1. Canterbury colliery.....	1st November, 1877.....	1,000
2. Wallsend ".....	3d February, 1878.....	1,462
3. Springfield ".....	26th October, 1877.....	1,435
4. Stevenson ".....	19th October, 1877.....	
5. Homebush ".....	13th October, 1877.....	2,235
<i>Oamaru District—</i>		
6. St. Andrew's colliery.....	10th November, 1877.....	50
7. Prince Alfred ".....	14th November, 1877.....	2,045
8. Awamoko ".....	16th November, 1877.....	400
<i>Otago Coal Fields—</i>		
9. Real Mackay colliery.....	11th and 22d January, 1878.....	306
10. Bruce ".....	11th and 19th January, 1878.....	1,583
11. No. 1 Kaitangata ".....	10th Dec., 1877, and 9th Jan., 1878..	1,872
12. Kaitangata Coal Mining Co.....	5th Dec., 1877, and 9th Jan., 1878....	10,477
13. Shag Point colliery.....	27th November, 1877.....	2,622
14. Otago ".....	June, 1877.....	2,941
15. Freeman's ".....	June, 1877, and 7th January, 1878....	5,006
16. Walton Park ".....	June, 1877, and 7th January, 1878....	16,000
17. Sampson's ".....	June, 1877, and 7th January, 1878....	8,000
18. Saddle Hill ".....	June, 1877, and 8th January, 1878....	4,000
19. Lawrence ".....	3d June, 1878.....	1,351
<i>Greymouth District—</i>		
20. Wallsend colliery.....	25th February, 1878.....	440
21. Coal-pit Heath colliery.....	20th February, 1878.....	6,138
22. Brunner ".....	22d February, 1878.....	21,974
<i>Reefton District—</i>		
23. Energetic colliery.....	15th March, 1878.....	500
<i>Buller District—</i>		
24. Wellington colliery.....	2d March, 1878.....	948
<i>Collingwood District—</i>		
25. Parapara colliery.....	31st March, 1878. Closed.....	
<i>Auckland District—</i>		
26. Miranda colliery.....	January, 1877.....	600
27. Taupiri ".....	February, 1877.....	
28. Kupakupa ".....	February, 1877.....	5,200
29. Waikato Coal Co.....	(Not yet visited.).....	600

Whangarei—

30. Whauwhau colliery.....	10th March, 1877 (estimate).....	2,000
31. Kamo “	March, 1877.....	1,200

Bay of Islands—

32. Kawakawa colliery.....	April, 1877.....	36,599
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Total output for Colony..... 138,984
—*Fas. Hector.*

THE AMYZON TERTIARY BEDS.—In Vol. I of the Report of the United States Geological Survey of the Fortieth parallel, page 393, the able author, Mr. King, has described an extensive series of beds, including many laminated shales, which are found in the northern part of Nevada, as constituting an extension of the Green river formation west of the Wasatch mountains.¹ He states that they contain the same species of fossil fishes as those of the Green river epoch. I published the first notice of this formation, which I examined at Osino and at Elko, Nevada,² and described from it two species of fishes, which were referred to genera previously unknown, viz: *Amyzon* and *Trichophanes*. These genera have not been found represented in the fish fauna preserved in the Green river shales, which embraces eight genera and twenty-four species. But they occur in several species and specimens in the South park of the Rocky mountains of Colorado, associated with the genera *Rhineastes* and *Amia*, neither of which has yet been found in the Green river formation. The first named is common in the Bridger, but in a different form, and the generic identity is not yet fully established. The *Amia* is represented in the Bridger by *Pappichthys*, but in the former the characteristic parts have not yet been seen in the South park specimens, so that here also the determination of the genus is not final. It, however remains, that this fish fauna is different from that of the Green river beds, and the modern aspect of the genera points to an age even later than the Bridger. It is evident that the pertinence of this series of rocks to the Green river formation, asserted by King, cannot be maintained. I have named this epoch that of the Amyzon beds, from the characteristic genus which it includes, and refer it to the later Eocene or early Miocene eras. Its fish fauna includes ten species, distributed as follows: *Trichophanes* Cope, 3 sp.; *Amyzon* Cope, 4 sp.; *Rhineastes* Cope, 1 sp.; *Amia* L., 2 sp.—*E. D. Cope.*

GAUDRY ON PERMIAN VERTEBRATA. — Prof. Gaudry recently brought before the Academy of Science descriptions of several interesting types of *Batrachia* and *Reptilia* from the Permian of the Department of the Saone et Loire. Among these was *Actinodon* Gaudry, whose vertebræ are segmented so as to closely resemble those of *Rachitomus* (this journal, 1878). Another form allied to *Protriton*, was probably a terrestrial animal, and possessed

¹ L. c. I, p. 393.

² Proceedings Amer. Philosophical Soc., 1872, p. 478.

a large tail; it was termed *Pleuronura peltati*. The third type was represented by a humerus which resembles that of the *Dime-trodon* of Texas, and similar forms from the Ural and South Africa, in presenting some Mammalian features. He referred it to a new genus, under the name of *Euchyrosaurus*, which is probably Pelycosaurian.

A STING RAY FROM THE GREEN RIVER SHALES OF WYOMING.—Leslie A. Lee, of Bowdoin College, Me., recently lent me for examination an interesting fossil from the above formation, from the locality which has recently furnished such fine specimens of *Mioplosus*, *Diplomystus*, etc. It is a species of sting ray nearly allied to the genus *Trygon*, but so far different as to be referable to another genus which I propose to name *Xiphotrygon*. Its characters are: teeth with produced triangular crowns as in *Raja*. Caudal spines compressed, with a single serrate-edge, which is dorsal. No caudal fins discoverable. The species has a rather long acuminate snout without superficial ossification, from whose apex the pectoral fin borders diverge. The latter do not extend posterior to the ventrals. Tail very long and slender, nearly twice as long as head and abdomen. Caudal spines (three present in the specimen) with a shallow lateral groove, but otherwise smooth. Pectoral rays 31 + 10 + 41. Total length m. .515; width at middle of abdomen .230; length of head .100; length of tail .351; length of spine .040. The species may be called *Xiphotrygon acutidens*. The *Trygon muricata*, of Monte Bolca, has the typical form of spine, according to Gazzola—*E. D. Cope*.

AMERICAN ACERATHERIA.—Four species of rhinoceroses have been found within the limits of the United States, which may be referred to the above genus. They are, commencing with the smallest, *A. mite* Cope, *A. occidentale* Leidy, *A. pacificum* Leidy (= *A. ? hesperius* Leidy, from Oregon) and *A. truquianum* Cope, n. sp., from the John Day river deposit of Oregon. The last named is the largest American species, nearly equaling the *Aphelops megalodus* of the Loup River formation. It is only known from an incomplete mandible, which supports molar, canine and incisor teeth. The former have the usual form. The crowns of the canines are considerably wider than those of the incisors, but do not project very far beyond them. They are sub-triangular in outline, having a prominent shoulder at the base on the inner side. There is but one incisor on each side, which has a transverse crown. Diastema long; ascending ramus vertical, flat in front. Depth of ramus at last molar. .065; length of last molar .045; width of do. .029; length of crown of canine .027; width do. at base .024.

From beds of the Truckee epoch of the White River formation. This name, introduced by King, has priority of publication over the term Oregon beds introduced by me, hence the latter must be abandoned.

I add that the genus *Aphelops* differs from *Aceratherium* in the presence of but three toes on the anterior foot, and from *Rhinoceros* in the absence of horn.—*E. D. Cope*.

THE LOWER JAW OF LOXOLOPHODON.—Messrs. Speir and Osborn contributed to the April number of the *American Journal of Science and Art*, a very interesting account of the mandible of *Loxolophodon cornutus*, which has been hitherto unknown. It presents characters as curious as those of the cranium. The incisors and canines are similar, and have remarkable bilobate crowns, and there is a slight expansion of the lower margin of the ramus to represent the wide phlange of *Uintatherium*. The authors of the paper have not consulted the literature as carefully as they might have done, and have thus been led into error in several points. They think that the mandible of *Loxolophodon* had been already described by me, and that erroneously; whereas the description to which they refer, is that of another species, probably of another genus, found in a different Bridger basin. It was not identified, and was described only as "resembling that of *Uintatherium*." They confirm my description of the furcate character of the premaxillary bones, while seeming to disapprove of it. They also appear to suppose that the question of the possession of a proboscis is identical with the question of Proboscidian affinity, which are really dissimilar propositions.—*E. D. Cope*.

GEOGRAPHY AND TRAVELS.¹

AFRICAN EXPLORATION.—Dr. Rohlfs left Tripolis about Christmas. Letters dated January 27, 1879, at Sokna, some 250 miles south of Tripolis, have been received, from him, at Berlin. They include a valuable zoological report by Dr. Stöcker and a number of astronomical observations. Sultan Ali of Wadai, who treated Dr. Nachtigal so hospitably, is dead, but his brother, Jousouf, who succeeded him, is said to be equally well disposed towards foreigners.

Capt. Roudaire reports favorably on the experimental borings made by him along the neck of land separating the gulf of Gabes from the Saharan depression. Nothing but sand and soft soil were encountered down to a depth of one hundred feet. There are no rocks, and M. de Lesseps expresses himself satisfied that the construction of a canal will meet with no difficulties. The scheme, however, of converting this portion of the Southern Sahara into an inland sea is severely criticized; it is said that, if successful, it would destroy the date-culture, and owing to the prevalence of northerly winds would not exercise any favorable influence upon the climate of Algeria.

Mr. Mackenzie, the African traveler, sailed from England recently for Cape Juby, on the north-west coast of Africa, in a

¹ Edited by ELLIS H. YARNALL, Philadelphia.